

Implant Treatment Planning - *The Team Approach and How to Successfully Navigate the Myriad of Options Available*



Andrew Cargulia,
CDT

In recent years as great strides have been made in technology, dental implants have often become the preferred choice over traditional crown and bridge restorations by both doctors and patients alike. Fueling the dramatic increase in dental implant placement in recent years has been a reported success rate of nearly 98% and a patient population that is better educated than ever before that demands the highest level of esthetics and function. The Baby Boomer generation has become one of the most influential and powerful segments of the consumer population today, representing 27.7% of the overall population in the United States and 30.8% of New Jersey's population (the 11th largest percentage in the country). The 50 and over age group in America accounts for \$2.4 trillion dollars in annual income, which represents 42% of all after tax income. Vanity and convenience are especially motivating to the Baby Boomers, who spend 1.5 times more annually on anti-aging assistance and personal care products and services than do younger adults. It is for these reasons that many dentist today report patients are requesting implants when treatment options are discussed. All of these developments lead to the conclusion that the dentist of today has morphed into part oral-health professional and part cosmetic solutions provider.

Esthetics is a driving force in the dental field today. The dentist that can satisfy this demand for esthetics will increase profitability today and ensure it for the future. Not surprisingly, surveys report 71% of GPs have taken a continuing education course focusing on implant dentistry in the past year, while nearly 87% are planning on taking such a course in the year ahead.

Since their introduction, dental implants have undergone quite an evolution as more and more companies are now bringing new systems to market. With each of these systems come a myriad of choices: the restorative dentist today is faced with a multitude of questions that must be answered before implant restoration can begin. Here are just a few of the most essential considerations that must be addressed before one can treatment plan an implant:

- Implant manufacturer: Each manufacturer has multiple platforms and multiple options within each of these platforms.
- Implant type: Internal or external hex.
- Implant diameter.
- The choice of an open or closed impression tray.

In lecturing to dentists about restoring implants, the question I

am asked most frequently is how are they supposed to understand and manage the multitude of components required to restore an implant. I respond that studies show many GPs do not restore implants for this reason alone – they feel overwhelmed by the extent to which they need to understand the various implant systems and would feel more comfortable performing standard crown and bridge procedures. If this is one of the reasons holding you back., then my advice is rather simple – make sure you are partnered with an experienced laboratory that can help you traverse the many pitfalls facing you as you embark upon restoring implants. Just as you might be overwhelmed by the number of systems on the market, so too could a dental laboratory. As someone who has lectured over the years on strengthening the doctor/technician relationship, in the case of implants I truly believe you will find no better ally than your dental laboratory.

In order to get a better understanding of what is involved in restoring implants let us discuss the steps involved once the patient has visited the surgeon and now walks through the front door into your practice. Hopefully prior to this the surgeon has forwarded all pertinent information regarding the implant. The first step is to remove the healing cap and take an impression. Although you have done this a countless number of times, when taking an impression for an implant restoration you must first determine if this patient requires an open or closed impression tray. The type of tray you will use is usually determined by the number of implants being restored. Four implants will usually be used as the limit; if restoring four or more implants, one should use an open tray, if under four a closed tray is used.

Before even making the impression we must determine the type of impression post that is required. In order to determine which impression post to use we need to answer those earlier questions posed regarding implant manufacturer, hex type and diameter. Without this information the dentist will be unable to make the proper impression. Proceeding forward with the incorrect impression is a recipe for disaster and will ultimately be a deciding factor in the both the clinical and esthetic success of the implant restoration. Once the correct impression post is chosen, remove the healing collar, screw in the impression post and proceed with the impression. When the laboratory receives the impression they take an analog (think of an analog as simply the negative image of the implant) and screw it into the impression

post and pour the model. Once the model has been poured the technician selects and prepares the correct abutment and proceeds forward with the final restoration.

You're probably saying to yourself "that wasn't so complicated"... and it isn't. However, the implant companies felt that many dentists did not want to be bothered with all these steps so they designed new systems that did not require so rigorous a process. The new innovations provided the surgeon placing the implant with the ability to place the abutment as well – thus eliminating the step of the GP having to determine which impression post to use. Patient will no longer have a healing collar on the implant, but rather the actual abutment.

It was mentioned that this process was supposed to make restoring implants far easier for the GP. While it has, it can also create a new set of problems, most notably when that patient walks into your office with the incorrect abutment in their implant(s). As the restorative dentist you would have no way of knowing this and you would proceed forward with the impression and send that off to the laboratory. Once received, it isn't until after the pour and articulation of the model that it is realized that the incorrect abutment has been placed. Many factors may indicate incorrect placement of the abutment, including its length, size and angle. The laboratory cannot start fabricating the restoration on the incorrect abutment; the only option is to send your patient back to the surgeon for abutment replacement and to make a new impression. This occurs with greater frequency than might be otherwise thought.

The way to combat each of these issues is to ensure proper treatment planning of each implant to be restored. Any successful treatment plan begins and ends with communication. As the number of implants increases so too does the difficulty of the case. When treatment planning for these complex multi-implant cases it is essential the surgeon employ a surgical guide as provided by the restorative dentist. As an experienced implant laboratory we do extensive, in-depth preplanning. We fabricate study casts and

diagnostic wax ups to determine proper placement of the implants and to ensure the proper abutment is being used. In the esthetic zone we recommend Zirconia abutments whenever possible. With the advancements in CAD/CAM technology we are currently able to fabricate custom Zirconia abutments that provide esthetically superior results.

Dentistry is an inexact science. Even when everything goes according to plan, it is often difficult to determine the outcome of treatment or account for the myriad of possible outcomes. The restorative dentist must be the driving force if an implant restoration is to be a success both from a clinical and esthetic perspective. The restorative dentist needs to determine the necessary treatment plan in conjunction with their laboratory and present it to the surgeon and insist that it is followed every step of the way.

Andrew Cargulia is the President and CEO of AC Dental Esthetic Institute and a Certified Dental Technician for over 30 years. This experience along with his history as a clinician, speaker, technician and successful laboratory owner has resulted in him becoming a sought after technical consultant for the top implant companies in the market today. He has lectured throughout the United States on wide range of subjects including dental implants and the clinical and financial impact they can have on a dental practice. He is a member of International Congress of Oral Implantologist and speaks to many Universities, Dental societies and groups including the greater New York Meeting, Lindsey Hopkins University of Miami, Union County Technical College, in Union New Jersey and Madison Dental Society in Madison Wisconsin. He has been the sole Dental Laboratory participant at such prestigious meetings as Introduction to Dentistry for the Dental Community provided by The University of Medicine and Dentistry of New Jersey and The Dental Implant Learning Center's annual Mini-Residency Courses: Basic or Advanced Implant Surgery Classes for the General Dentist.